Actiontec™

56K/V.92

External Modem

User Manual

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Introduction 1

Thank you for purchasing the *Action*tec V.92 External Modem. The Modem is also compatible with the V.90 and K56Flex™ standards.

☞ ***Important***: Please read this entire chapter. It contains important safety information.

Features

Among the features of the V.92 External Modem:

- **Quick Connect**
  Reduces the time it takes for the Modem to connect to the Web by remembering the characteristics of the phone lines.
- **V.44 Data Compression**
  Enables faster browsing and faster downloads.
- **48Kbps Upload Speed**
  Up from 33.6Kbps (depending on line condition).
- **Modem On Hold**
  Generates a Caller ID window when a phone call comes in while online. The call can be ignored while remaining online, or it can be answered, putting the Internet session on hold. The Internet session can be resumed after the call is completed.

☞ ***Note***: Modem On Hold will function correctly only if the ISP supports this feature, and if call waiting is activated. For updates and instructions relating to the Modem On Hold feature, go to **www.actiontec.com**.

Other features include:

- Conformance to the ITU-T V.92 and V.90 specifications, with auto-negotiation of V.44, V.42bis, V.34, V.32bis, V.32, V.23, V.22bis, V.22, V.21, Bell 212A, and Bell 103 protocols
- Group 3: class 1 fax protocols support

- V.80 video standard support for videophone and video conferencing
- Controller-based, with support for Windows 98, Me, NT, 2000, and XP
- Simple "Plug-N-Play" installation

Package Contents

- Actiontec V.92 External Modem
- Installation CD-ROM
- Quick start guide and user manual (pdf version on Installation CD)
- Telephone cable (RJ-11)
- Modem cable (serial)
- Power adapter
- Phone adapter RJ11 – RJ6 (for United Kingdom users only)

Firmware Updates

Firmware updates are made available on a regular basis for this product. To check for updates, visit the *Action*tec Web site at **www.actiontec.com**. Follow the instructions on the Web page to upgrade the modem with the latest firmware.

Reset Button

The Reset button is used to reset the Modem. Holding the button down for less than 10 seconds causes the Modem to restart, with all settings remaining intact. If the Reset button is held for more than 10 seconds, the default settings will be reloaded onto the Modem, and any changes made to the settings must be reinstalled on the Modem.

Caution: The Modem is for use with computers that have installation instructions detailing the installation of this type of peripheral device.

Safety Information

Shock Hazard

To avoid shock hazard:

- The power cord and any other equipment to which this product is attached must be connected to properly wired receptacles. Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- When using telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution when installing or modifying telephone lines. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning. Do not use the telephone to report a gas leak in the vicinity of the leak.

Connecting the Modem

- Do not connect the Modem to a digital PBX (switchboard) system, as damage to the Modem can occur. Modems are designed to function with analog telephone lines, such as residential lines.
- Do not connect the Modem to an ISDN line. In some areas, ISDN (digital) lines are provided for residences and businesses. These lines may damage the Modem.

Note: The Modem is fully compatible with analog telephone lines connected to a Digital Exchange. Digital Exchanges are used in some areas to supply analog lines to homes and businesses.

Technical Support

*Action*tec Electronics, Inc., prides itself on making durable, high-quality, high-performance products. If you need assistance, the *Action*tec Technical Support Department is always available, 24 hours a day, seven days a week, to provide professional support.

_Action_tec Electronics, Inc.

760 N. Mary Avenue
Sunnyvale, CA 94085

Technical Support
Phone: 1.888.436.0657
Email: techsupp@actiontec.com
Internet: www.actiontec.com/support

Connecting the Modem 2

To connect the Modem:

1. Ensure the computer is powered down.
2. Plug the serial cable connected to the rear panel of the Modem in the serial port on the computer.
3. Plug one end of the phone cable to the "Line" port on the rear panel of the Modem, and the other end to the phone wall jack.

   Note: If connecting the Modem in the United Kingdom, insert the telephone adapter included with the Modem package between the wall jack and phone cable.

4. Plug the cable connected to the telephone in the "Phone" port on the back of the Modem.
5. Plug the power adapter into an electrical wall outlet, and plug the power cable in the "Power" port on the back of the Modem.

The Modem is now connected. Next, install the driver software as explained in "Installing the Software."

Power Switch

The Modem's Power Switch is located on the left side of the rear panel, and is a push-button type switch. Push the button to turn the Modem on, and push it again to turn it off.

Front Panel

The front panel of the Modem contains a series of indicator LEDs (light emitting diodes).

LEDs

PWR – When on, indicates the Modem is powered up.

RD – Receive Data; on when the Modem is receiving data.

TD – Transmit Data; on when the Modem is sending data.

OH – Off Hook; on when the Modem is off hook.

Installing the Software

3

After connecting the Modem to the computer and the phone line, the driver software must be loaded on the computer. Select the operating system used, and follow the instructions.

Windows 98 and 98 SE

1. Ensure the Modem is turned off, then power up the computer and, while it is booting, insert the Installation CD in the CD-ROM drive.
2. After the computer has booted, turn on the Modem.
3. The first "Add New Hardware Wizard" window appears. Click **Next**.

Add New Hardware Wizard
This wizard searches for new drivers for:
56K EXTERNAL MODEM;
A device driver is a software program that makes a hardware device work.
< Back
Next >
Cancel

4. In the next window, select **Search for the best driver for your device (Recommended)**, then click **Next.**

Add New Hardware Wizard
What do you want Windows to do?
Search for the best driver for your device. (Recommended).
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

5. When the next window appears, click **CD-ROM drive**, then click **Next**.

Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.
Floppy disk drives
CD-ROM drive
Microsoft Windows Update
Specify a location:
C:\My Documents\scanner\UMAX\DISK1
Browse...
< Back
Next >
Cancel

6. In the next window that appears, Windows searches for and then finds the proper software on the Installation CD. Click **Next**.

Add New Hardware Wizard
Windows driver file search for the device:
Actiontec 56K External Modem
Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
E:\EXT56K~9\DRIVERS\WIN95\MDMATEX
< Back
Next >
Cancel

7. The software is loaded on the hard drive of the computer. When the window, below, appears, click **Finish**.

Add New Hardware Wizard
Actiontec 56K External Modem
Windows has finished installing the software that your new hardware device requires.
< Back
Finish
Cancel

The Modem is now ready to use.To verify the driver software installation, see "Verifying Driver Software Installation (Windows 98 and Me)" on page 13.

Windows Me

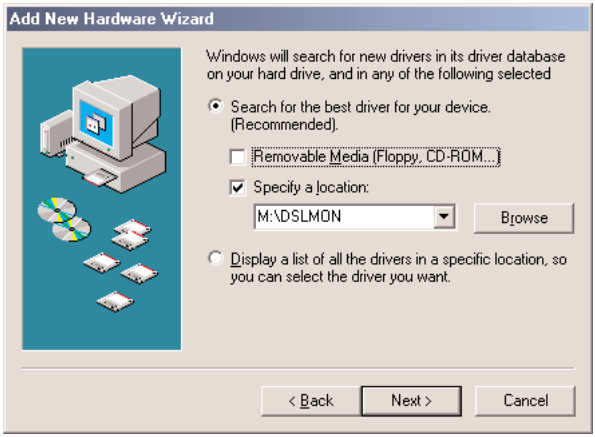
1. Ensure the Modem is turned off, then power up the computer and, while it is booting, insert the Installation CD in the CD-ROM drive.

2. After the computer has booted, turn on the Modem.

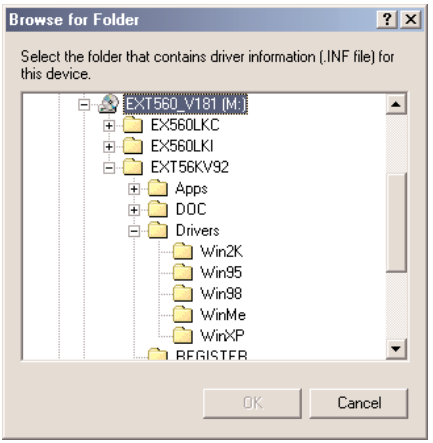
3. The first "Add New Hardware Wizard" window appears. Select the **Specify the location of the driver (Advanced)** option, then click **Next**.

Add New Hardware Wizard
Windows has found the following new hardware:
56K EXTERNAL MODEM;
Windows can automatically search for and install software that supports your hardware. If your hardware came with installation media, insert it now and click Next.
What would you like to do?
Automatic search for a better driver (Recommended)
Specify the location of the driver (Advanced)
< Back
Next >
Cancel

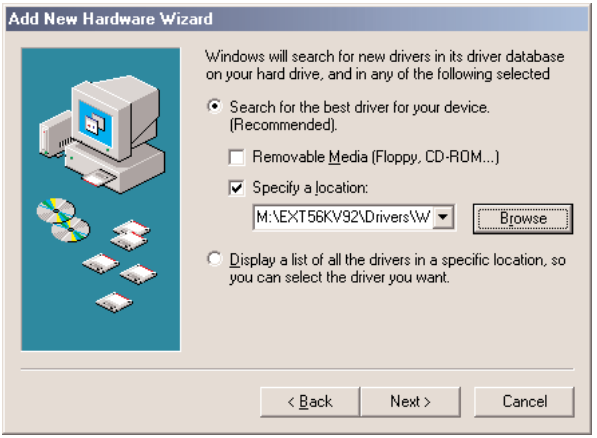
4. In the next "Add New Hardware Found" window, select **Search for the best driver for your device (Recommended)**. Then, select **Specify a location** and click **Browse**.


Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected
Search for the best driver for your device. (Recommended).
Removable Media (Floppy, CD-ROM...)
Specify a location:
M:\DSLMON
Browse
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

5. The "Browse for Folder" window appears. Click on the + next to "EXT 560_V181 [X:]" CD-ROM icon (where X is the drive letter of the CD-ROM drive on the computer). Three folders appear underneath "EXT 560_V181 [X:]." Click on the + next to the "EXT 56KV92" folder icon. More folders appear beneath "EXT 56KV92." Click on the + next the "Drivers" folder. Select the "WinMe" folder icon from the folders that appear below "Drivers" then click **OK.**



6. The "Add New Hardware Wizard" window reappears, with the proper path to the driver software appearing in the text box next to the "Browse" button. Click **Next**.


Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected
Search for the best driver for your device. (Recommended).
Removable Media (Floppy, CD-ROM...)
Specify a location:
M:\EXT56KV92\Drivers\W
Browse
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

7. In the next "Add New Hardware Wizard" window, click **Next**.

Add New Hardware Wizard
Windows driver file search for the device:
Actiontec 56K External Modem
Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
M:\EXT56K~9\DRIVERS\WINME\MDMAT
< Back
Next >
Cancel

8. In the next window, Windows searches for and then finds the proper software on the Installation CD. Click **Next**.

Add New Hardware Wizard
Windows driver file search for the device:
Actiontec 56K External Modem
Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
M:\EXT56K~9\DRIVERS\WINME\MDMAT
< Back
Next >
Cancel

9. The final "Add New Hardware Wizard" window appears. Click **Finish** to complete the download.

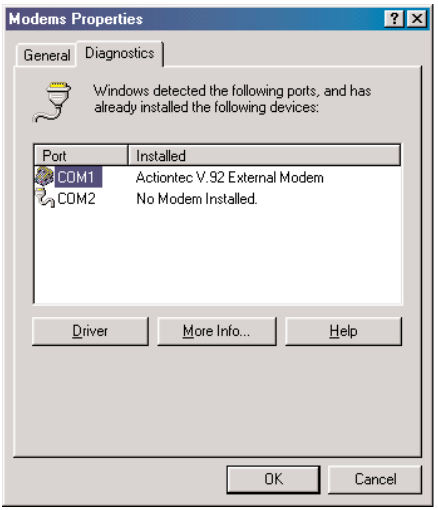
The Modem is now ready to use.

Verifying Driver Software Installation (Windows 98 and Me)

To verify the Modem and its driver software are configured properly:

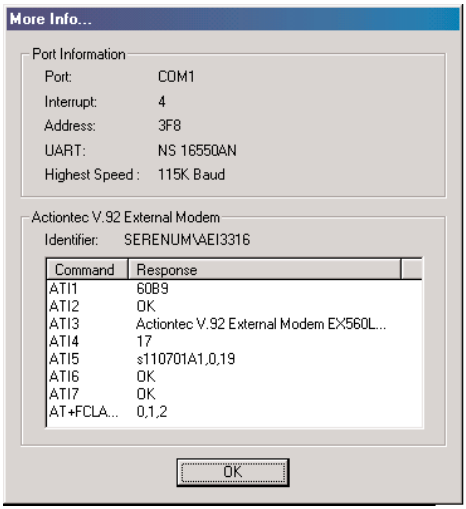
1. Select **Start**, **Settings**, then **Control Panel**.

2. In the "Control Panel" window, select **Properties**, then **Diagnostics.**



3. In the "Diagnostics" tab of the "Modem Properties" window, select the COM port used by the Modem, then click **More Info….**

4. The "More Info" window appears, displaying the settings used by the Modem. Click **OK** when finished.



Note: The settings displayed in the "More Info" window shown above may be different from the user's settings.

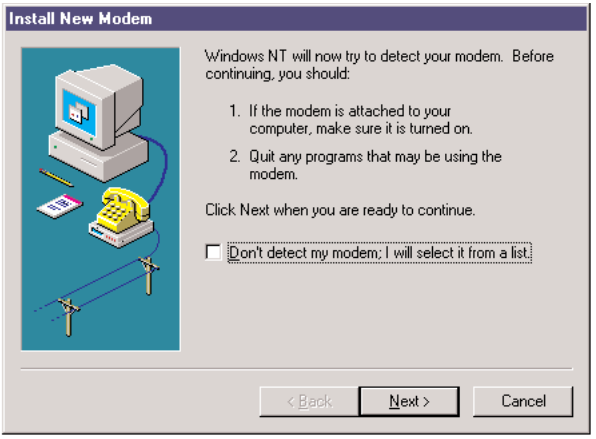
Windows NT 4.0

1. Ensure the Modem is turned off, then power up the computer and, while it is booting, insert the Installation CD in the CD-ROM drive.

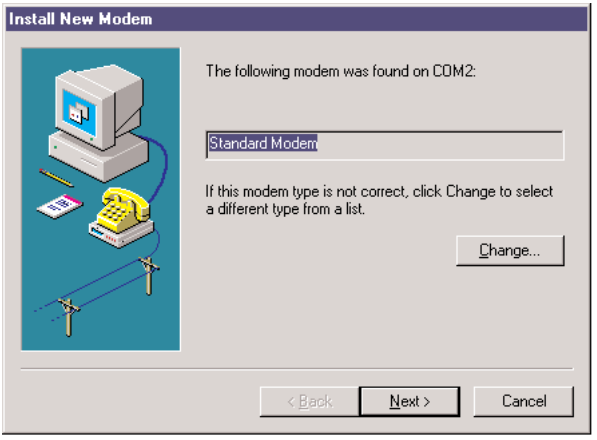
2. After the computer has booted, turn on the Modem.

3. From the desktop, select **Start**, **Settings**, then **Control Panel**.

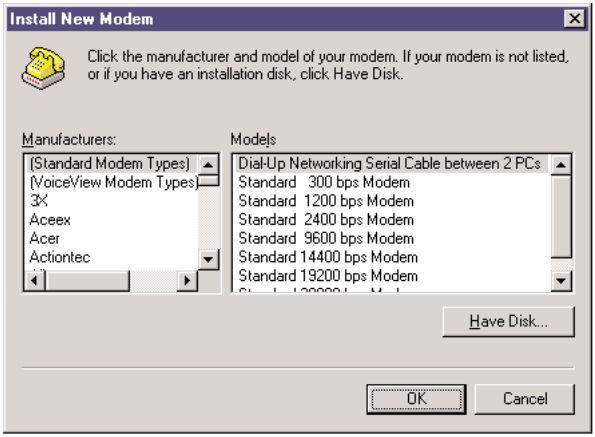
4. In the "Control Panel" window, double-click **Modems**. The first "Install New Modem" window appears. Ensure the check box is not checked, then click **Next**.


Install New Modem
Windows NT will now try to detect your modem. Before continuing, you should:
1. If the modem is attached to your computer, make sure it is turned on.
2. Quit any programs that may be using the modem.
Click Next when you are ready to continue.
Don't detect my modem; I will select it from a list.
< Back
Next >
Cancel

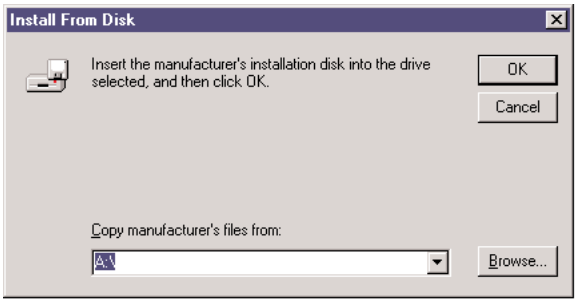
5. In the next "Install New Modem" window, Windows detects the Modem. When "Standard Modem" appears in the text box, click **Change…**.


Install New Modem
The following modem was found on COM2:
Standard Modem
If this modem type is not correct, click Change to select a different type from a list.
Change...
< Back
Next >
Cancel

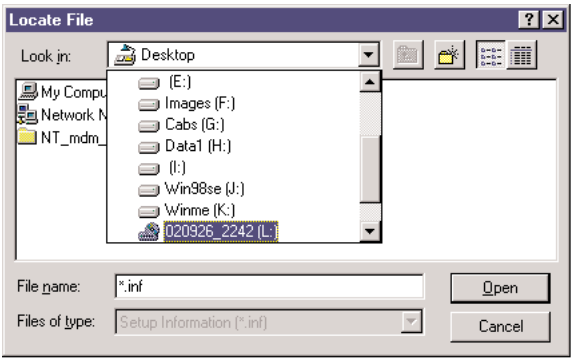
6. In the next window, click **Have Disk…**



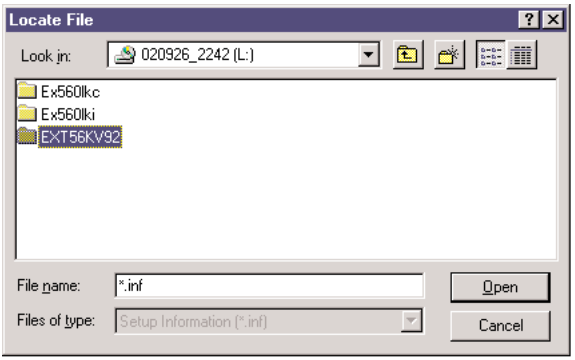
7. In the "Install From Disk" window, navigate to the CD-ROM drive (either by browsing using the **Browse…** button, or entering the drive letter of the CD-ROM drive in the "Copy manufacturer's files from" text box), then click **OK**.



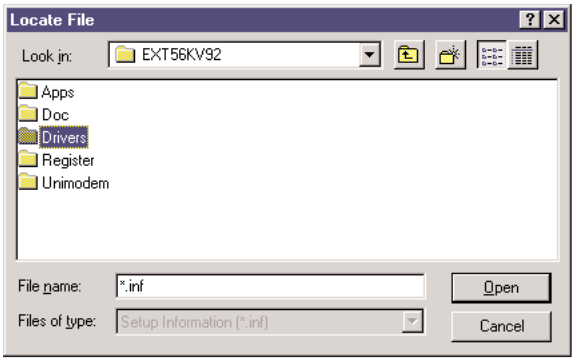
8. The "Locate File" window appears. Select the CD-ROM drive icon from the "Look in" drop down list.



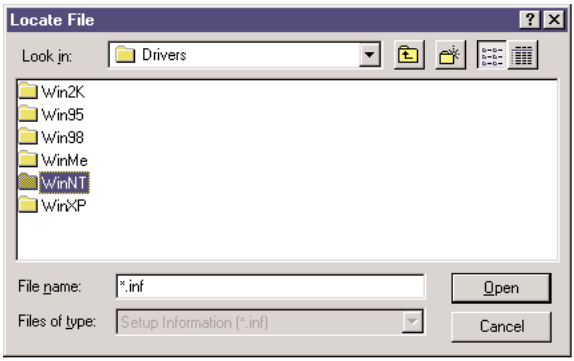
9. The contents of the CD appear in the "Locate File" window. Select **EXT 56KV92**, then click **Open.**



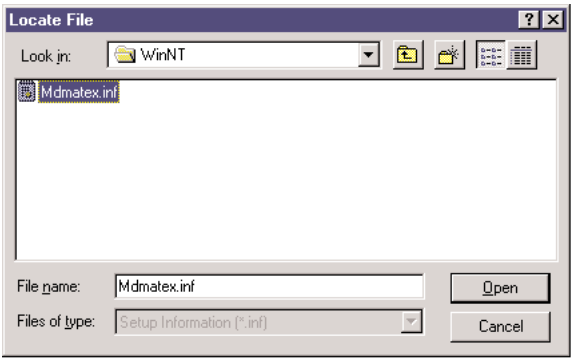
10. The contents of the folder appear in the "Locate File" window. Select **Drivers**, then click **Open.**



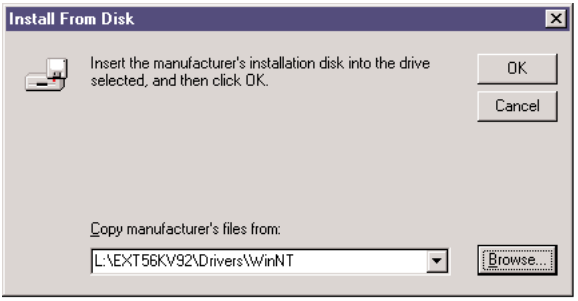
11. The contents of the "Drivers" folder appear in the "Locate File" window. Select **WinNT**, then click **Open**.



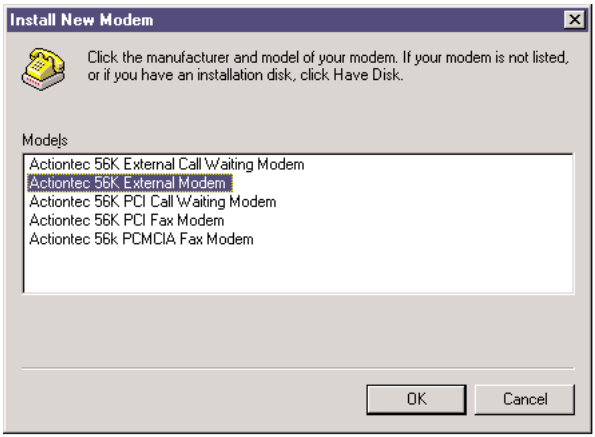
12. The contents of the "WinNT" folder appear in the "Locate File" window. Select **Mdmatex.inf**, then click **Open.**



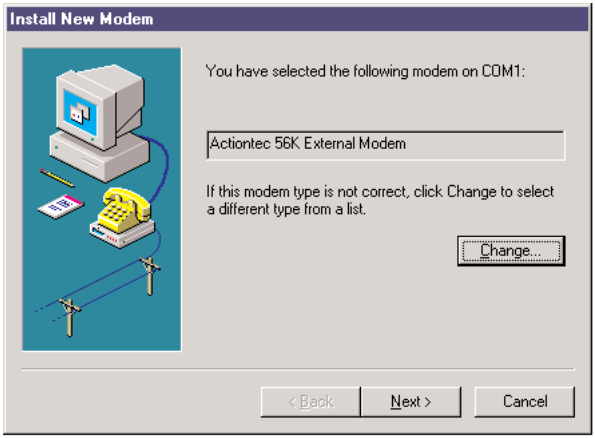
13. An "Install From Disk" window appears. Click **OK**.



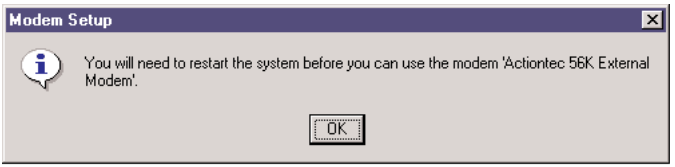
14. In the next window, ensure **Actiontec 56K External Modem** is listed in the "Models" list box, then click **OK**


Install New Modem
Click the manufacturer and model of your modem. If your modem is not listed, or if you have an installation disk, click Have Disk.
Models
Actiontec 56K External Call Waiting Modem
Actiontec 56K External Modem
Actiontec 56K PCI Call Waiting Modem
Actiontec 56K PCI Fax Modem
Actiontec 56k PCMCIA Fax Modem
OK
Cancel

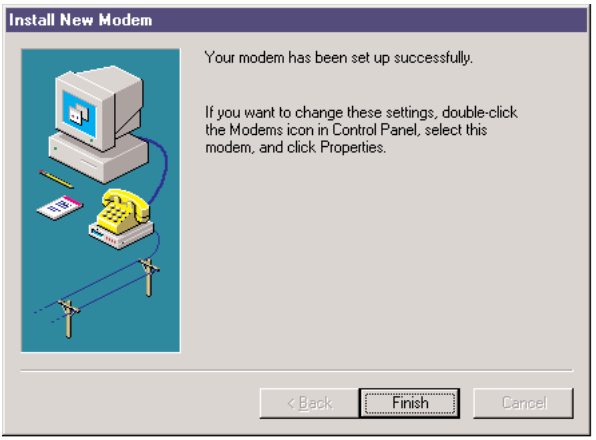
15. Another window appears. Ensure **Actiontec 56K External Modem** is listed in the text box, then click **Next**.


Install New Modem
You have selected the following modem on COM1:
Actiontec 56K External Modem
If this modem type is not correct, click Change to select a different type from a list.
Change...
< Back
Next >
Cancel

16. A "Modem Setup" window appears, stating that the computer needs to be restarted before the Modem can be used. Click **OK**.



17. After the computer has restarted, an "Install New Modem" window appears, stating that the Modem has been set up successfully. Click **Finish**.


Install New Modem
Your modem has been set up successfully.
If you want to change these settings, double-click the Modems icon in Control Panel, select this modem, and click Properties.
< Back
Finish
Cancel

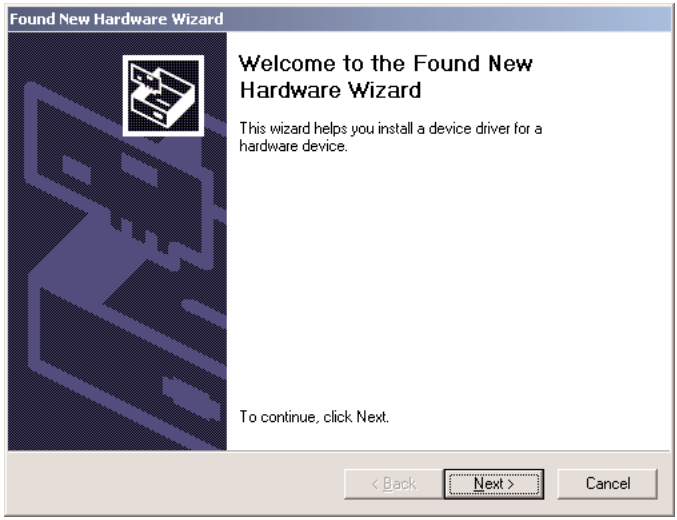
The Modem is now ready to use. To use the Modem to dial into a Windows NT Remote Access server or connect to the Internet, configure "Dial Up Networking." For more details, see the Windows NT documentation.

Windows 2000

1. Ensure the Modem is turned off, then power up the computer and, while it is booting, insert the Installation CD in the CD-ROM drive.

2. After the computer has booted, turn on the Modem.

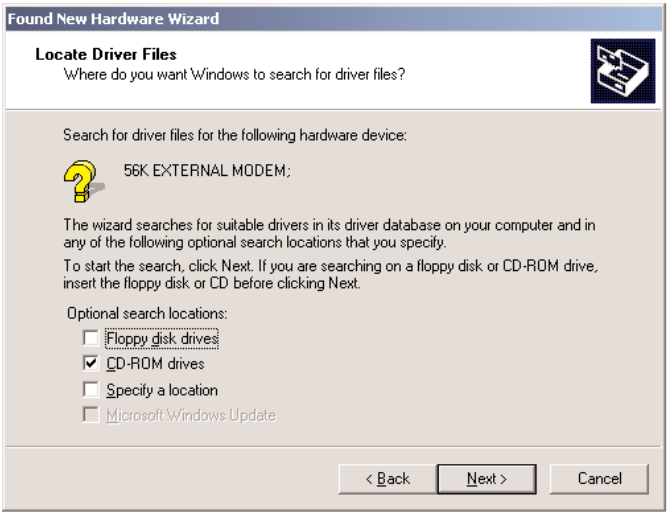
3. The first "Found New Hardware Wizard" window appears. Click **Next**.


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

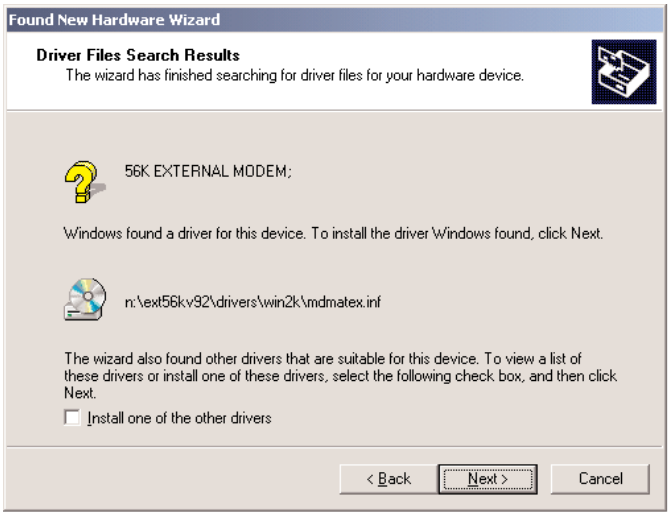
4. In the next window, select **Search for a suitable driver for my device (recommended)**, then click **Next**.

Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
56K EXTERNAL MODEM;
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

5. Another "Found New Hardware Wizard" window appears. Select **CD-ROM drives** from the "Optional search locations" list, then click **Next**.


Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
56K EXTERNAL MODEM;
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

6. In the next window, Windows states it has found the driver. Click **Next**.


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
56K EXTERNAL MODEM;
Windows found a driver for this device. To install the driver Windows found, click Next.
n:\ext56kv92\drivers\win2k\mdmatex.inf
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.
Install one of the other drivers
< Back
Next >
Cancel

7. The final "Found New Hardware Wizard" window appears. Click **Finish**. The driver software is now installed.

Found New Hardware Wizard
Completing the Found New Hardware Wizard
Actiontec 56K External Modem
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel

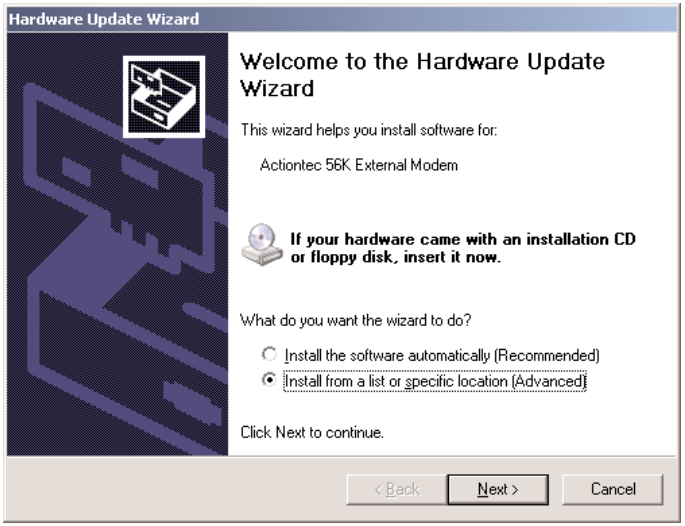
The Modem is now ready to use. To verify the driver software installation, see "Verifying Driver Software Installation (Windows 2000 and XP)" on page 27.

Windows XP

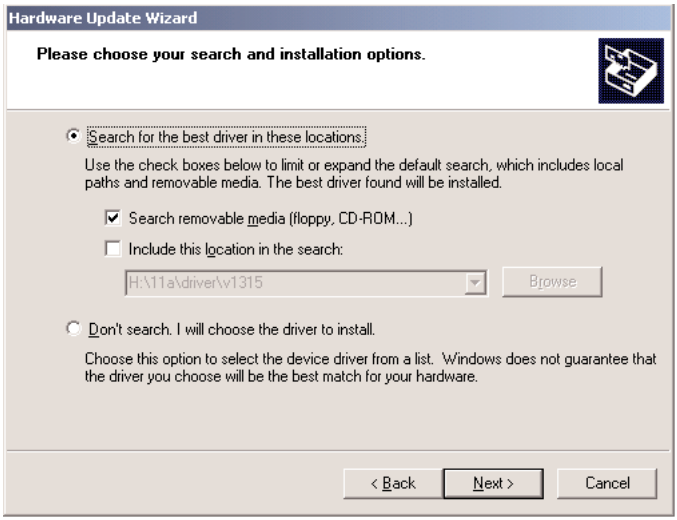
1. Ensure the Modem is turned off, then power up the computer and, while it is booting, insert the Installation CD in the CD-ROM drive.

2. After the computer boots up, turn on the Modem.

3. The first "Hardware Update Wizard" window appears. Select **Install from a list, or specific location (Advanced)**, then click **Next**.


Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
Actiontec 56K External Modem
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

4. Another "Hardware Update Wizard" window appears. Select **Search removable media (floppy, CD-ROM…)**, then click **Next**.


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
H:\11a\driver\v1315
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

5. When the "Found New Hardware Wizard" window appears, click **Finish**. The driver software is now installed.

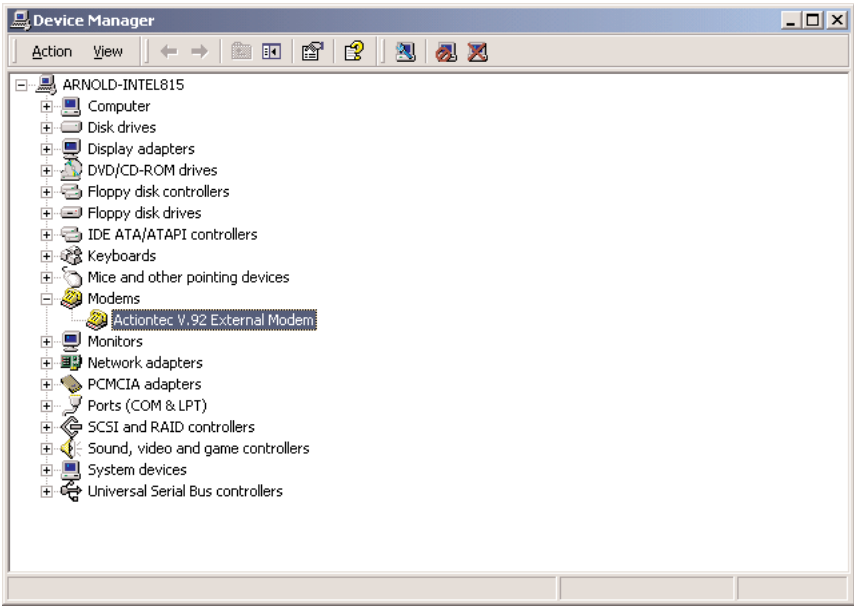
Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Actiontec 56K External Modem
Click Finish to close the wizard.
< Back
Finish
Cancel

The Modem is now ready to use.

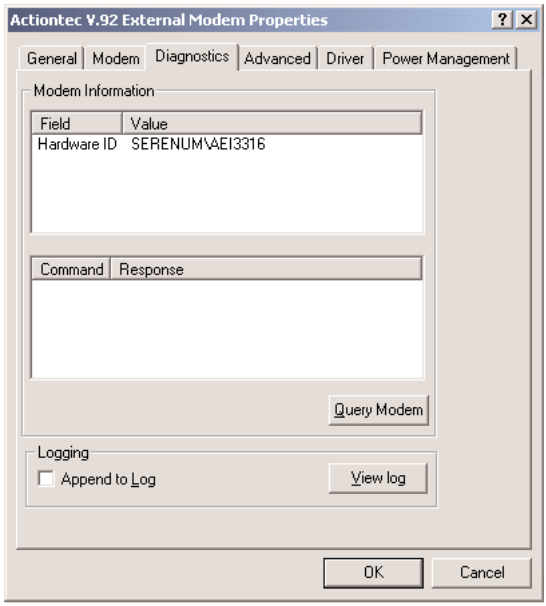
Verifying Driver Software Installation (Windows 2000 and XP)

To verify the Modem and its driver software are configured properly:

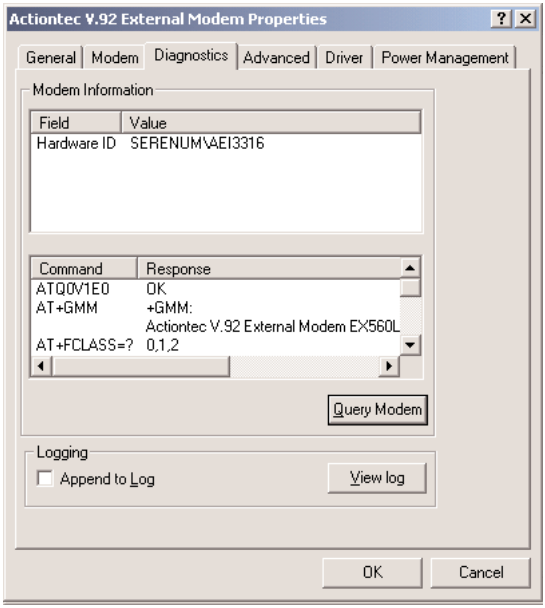
1. Right-click **My Computer**, then select **Properties**.
2. In the "System Properties" window, select **Hardware**, then click **Device Manager….**
3. In the "Device Manager" window, click the "+" next to "Modems," then double-click **Actiontec V.92 External Modem**.



4. When the "Actiontec V.92 External Modem Properties" window appears, select **Diagnostics**, then click **Query Modem**.



5. The modem's configuration information is displayed.



Troubleshooting 4

This section describes a few problems that may be encountered when using the Modem, and solutions to overcome them.

When I restart my computer, the Modem is not detected.

Ensure the Modem is turned on, and the serial cable is connected properly to a COM port on the computer, then restart the computer.

The Modem doesn't dial.

Ensure the Modem is turned on and connected to a working phone line. To ensure the phone line is functioning properly, plug a telephone into the phone wall jack and listen for a dial tone.

The Modem dials but doesn't connect.

First, verify the communications software is configured to the correct COM port and IRQ setting. Second, ensure the phone line is working properly (plug a telephone into the phone wall jack and listen for a dial tone).

☞ ***Note***: To determine the COM port and IRQ setting used by the Modem, select **Start**, **Settings**, **Control Panel**, then double-click **Modems**. Select **Diagnostics**, then **More Info**.

The Modem reports a busy signal.

First, verify the Modem is connected directly to a wall phone jack. If the Modem is a connected to a phone via a splitter, it will not function properly. Second, ensure the numerical prefix ***70** is not included before the access number provided by the Internet Service Provider (ISP). The *70 prefix disables call waiting, sending out a busy signal instead.

AT Commands

A

To access the Modem manually, use AT commands. AT commands can be sent to the Modem from a computer running a communications program.

Command Format

All commands must begin with the AT prefix, followed by the parameter, and ending by pressing the **Enter** key on the keyboard. All commands can be entered in either all upper– or all lower–case, but not upper– and lower–case mixed together. A command entered without any parameters automatically specifies the same command with a parameter of "0." The maximum length of a command is eight (8) characters. The Modem does not count the AT prefix, carriage returns, or spaces.

For example, entering the command

ATH

causes the modem to hang up.

Basic AT Commands

In the following lists, the commands are in bold text, followed by a short functional description. Default settings are noted with an asterisk (*).

A/ Repeat last command (do not precede this command with AT or follow by pressing the Enter key)

A Answer

D_ Dial command

P Select pulse dialing (affects current and subsequent dialing)

T Select tone dialing (affects current and subsequent dialing)

En Command echo

E0 Disables echo

E1 Enables echo*

Hn Switch hook control

H0 Hangs up the telephone line*

H1 Picks up the telephone line

Ln Speaker volume

L0 Off or low speaker volume

L1 Low volume

L2 Medium volume*

L3 High volume

ITU–T V.90 Operation Commands

Three S-registers support K56flex, V.90, and V.34 connections. The S37 register is used to control the upstream V.34 rate. The S38 register is used to control the maximum downstream speed at which the Modem attempts to connect. To disable V.90, set S38 to **0**. The S109 register is used to select between K56flex and V.90 protocols.

Dial Line Rate (S37)

S37 = 0 maximum modem speed*

S37 = 1 reserved

S37 = 2 1200 bits/s and 75 bits/s

S37 = 3 300 bits/s

S37 = 4 reserved

S37 = 5 1200 bits/s

S37 = 6 2400 bits/s

S37 = 7 4800 bits/s

S37 = 8 7200 bits/s

S37 = 9 9600 bits/s

S37 = 10 12000 bits/s

S37 = 11 14400 bits/s

S37 = 12	16800 bits/s
S37 = 13	19200 bits/s
S37 = 14	21600 bits/s
S37 = 15	24000 bits/s
S37 = 16	26400 bits/s
S37 = 17	28800 bits/s
S37 = 18	31200 bits/s
S37 = 19	33600 bits/s

56K Dial Line Rate (S38)

S38 = 0	Disable all 56K connections
S38 = 1	autorate (maximum achievable connection)*
S38 = 2	29333 bits/s
S38 = 3	30666 bits/s
S38 = 4	32000 bits/s
S38 = 5	33333 bits/s
S38 = 6	34666 bits/s
S38 = 7	36000 bits/s
S38 = 8	37333 bits/s
S38 = 9	38666 bits/s
S38 = 10	40000 bits/s
S38 = 12	42666 bits/s
S38 = 13	44000 bits/s
S38 = 14	45333 bits/s
S38 = 15	46666 bits/s

S38 = 16 48000 bits/s

S38 = 17 49333 bits/s

S38 = 18 50666 bits/s

S38 = 19 52000 bits/s

S38 = 20 53333 bits/s

K56flex and V.90 Selection (S109)

Use this register to disable 56K connections, or to select between K56flex and V.90 protocols. The default setting (S109=1) will attempt K56flex, and then V.34, depending upon the central site modem being called and the condition of the phone line.

S109 = 0 Disable all 56K connections

S109 = 1 K56flex only (V.90 disabled)*

S109 = 2 V.90 only (K56flex disabled)

Command Examples

The following list contains a few AT Command examples.

at&fs38=0s109=0 – disables ALL 56K connections.

at&fs38=1s109=1s37=14 – disables V.90 connections. The Modem attempts to connect at K56flex rates, with the V.34 upstream rate limited to 21.6K bps.

at&fs38=1s109=2 – causes the Modem to attempt a V.90 connection only. If V.90 is not achieved, it will fall back to V.34 rates.

at&fs38=10s109=2 – causes the Modem to attempt a V.90 connection at 40K bps. It will fall back to slower speeds if it cannot achieve or maintain this rate.

As a suggested "init string" in the communications program, use:
at&fw2s109=2s38=1s37=14

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by A*ction*tec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause undesired operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

*Action*tec Electronics, Inc.
760 N. Mary Ave.
Sunnyvale, CA 94086
United States
Tel: 408.752.7700
Fax: 408.541.9005

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Return the product to:
(In the United States)
*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94085

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